

# Eashan Gandotra

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## EXPERIENCE

- Chicago Trading Company** Chicago, IL  
*Quantitative Researcher, Equities Desk* October 2024 - Present
  - Develop and maintain production volatility pricing models using finite difference methods in C++ for equity options, optimizing numerical stability and computational performance
  - Build automated volatility surface fitting algorithms in Python to calibrate term structure and smile dynamics
  - Design and implement risk analysis frameworks to monitor and manage Greek exposures across portfolio positions
  - Research and deploy statistical signals for volatility trading strategies using time series analysis and machine learning techniques
- Chicago Trading Company** Chicago, IL  
*Quant Trading Analyst, Equities Desk* August 2023 - October 2024
  - Developed optimization algorithms for trade pairing and variance reduction strategies
  - Completed coursework in options theory, mock trading, data science, and data modeling
- Chicago Trading Company** Chicago, IL  
*Quant Trading Analyst Intern* May 2022 - August 2022
  - Created Python application to manage risk exposure to imperfect correlation between gold futures and ETFs
  - Won CTC Hackweek "Fresh Eyes" award for researching sports betting edge using neural networks
- McKesson Corporation** Remote  
*Automation Engineer Intern* May 2021 - August 2021
  - Built Jenkins CI/CD pipeline to automate infrastructure provisioning and deployment workflows
  - Scripted in Bash and PowerShell to create OS-agnostic automation tools

## EDUCATION

- Georgia Institute of Technology** Atlanta, GA  
*Bachelor of Science in Mathematics, Minor in Computing and Intelligence* August 2019 - May 2023  
GPA: 3.96, Dean's List for all semesters
- Budapest Semesters in Mathematics** Budapest, Hungary  
*Research oriented coursework in game theory, number theory, graph theory, and non-Euclidean geometry* Spring 2022  
GPA: 4.0

## TECHNICAL SKILLS

- Languages:** Python, C++, SQL
- ML & Data Science:** scikit-learn, pandas, numpy, PyTorch, statistical modeling, time series analysis, regression analysis
- Tools & Infrastructure:** Git, Linux, Jenkins, Vault,  $\text{\LaTeX}$
- Domain Expertise:** Numerical methods (finite difference, PDE solvers), stochastic calculus, optimization algorithms, volatility modeling, risk management, derivatives pricing, statistics, mathematics

## PROJECTS

- Sloth - Super Auto Pets AI:** AI agent for the auto-chess game Super Auto Pets using Monte Carlo tree search, heuristic evaluation functions, and reinforcement learning techniques to navigate complex game-state spaces. Technical writeup: [mark-ni.github.io/SuperAutoPetsAI](https://mark-ni.github.io/SuperAutoPetsAI)
- Terminal Competition Agents:** Developed a top 100 (out of 50,000+) heuristic-driven Python agents for Terminal, an adversarial resource management game on Kaggle, using game theory and dynamic programming optimization
- Combinatorial Card Arrangements:** Collaborated with Georgia Tech professor Dr. Matt Baker on novel card deck arrangements based on de Bruijn sequences, enabling algorithmic magic tricks through combinatorial mathematics

\*See GitHub for additional projects and implementation details

## HONORS AND AWARDS

- William Lowell Putnam Exam:** Top 1000 (2019, 2021, 2022) and top 500 (2020) on undergraduate mathematics competition
- ICPC Regional Competition:** Competed on Georgia Tech's top undergraduate team in the North American Championship
- Competitive Programming:** 500+ problems solved on Codeforces (peak rating: 1898) and 500+ solutions on Art of Problem Solving
- American Invitational Mathematics Examination:** Top 2.5% on AMC 12, scored 75th percentile on AIME